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EXAMINER

GATES, ERIC ANDREW

ART UNIT

PAPER NUMBER

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SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submissions filed on 17 November and 23 October 2006 have been entered.

Response to Amendment

2. The amendment filed 17 April 2006 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the phrase "each of the rings comprising a pair of half ring elements of circular cross-section" on page 5 of the marked up specification, lines 7-8, and the phrase " Each of the rings comprises a pair of half ring elements of circular cross-section" in the abstract. The "circular cross-section" portion of these phrases adds new matter to the specification because this information was not included in the original disclosure or drawings. The original disclosure identified the ring elements as being formed from cylindrical rods. The *Oxford English Dictionary*, online version, states that a cylinder is "In *mod. Geom.*, the

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solid generated by a straight line moving always parallel to itself and describing any fixed curve (not necessarily a circle).” While older definitions may define a cylinder as having two circular ends, it is well understood in modern mathematics that a cylinder is not required to have circular ends unless it is identified as a “circular cylinder”. See, for example, the attached document from Wikipedia, which gives the general equation for a cylinder, and which explains that for an elliptic cylinder to have a circular cross-section, “a” must be equal to “b” in the equation. The article also explains that a generalized cylinder may have a cross section formed by any curve.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-6, 10-13, and 20-24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The phrase “half ring elements of circular cross-section” in lines 13-14 of claim 1 adds new matter to the claim because the limitation “circular cross-section” was not included in the original disclosure, as described in paragraph 2 above.

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5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 20 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 20 recites the limitations "the cylindrical rod" in line 10 and "the connecting portion" in lines 14-15. There is insufficient antecedent basis for these limitations in the claim.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 1-4, 6, 10-13, and 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kissel (U.S. Patent 4,690,580) in view of Ng (U.S. Patent 6,217,247).
9. Regarding claim 1, Kissel discloses a ring binder mechanism for binding the sheets of loose leaves, the mechanism comprising: an elongated spring plate 1 that extends longitudinally, and, in profile, has a shallow U-shaped configuration and opposite edges which extend substantially toward each other (see figure 6); two parallel elongate hinge plates 11/12 (parallel along their length) supported by said spring plate for pivotal toggle motion relative to the spring plate about a central hinge line (see

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column 2, lines 63-64), the hinge plates being mounted in parallel and retained by the opposite edges of the spring plate; a plurality of rings 2/3 for clasping said sheets of loose leaves, each of the rings comprising a pair 2 and 3 of half ring elements of circular cross section (the cross section of the bore 6 of free end 6 of ring 2 is circular, and the cross section of free end 7 is circular) mounted on said hinge plates, with one half ring element of each pair being attached to one of the hinge plates and the other half ring element of the pair attached to the other hinge plate, with the two half ring elements of each pair in substantial alignment, the pairs of half ring elements being movable with said hinge plates to toggle between an open position and a closed position and forming a substantially annular shape when in the closed position (Webster's Online Dictionary definition of annular is "of or relating to a ring", elements 2 and 3 are identified as "ring portion", see column 2, line 17); wherein free ends 6/7 of the half ring elements of each pair form a nesting configuration when in the closed position, the free end of one half ring element of each pair having a centrally concave nesting portion 6 and the free end of the other half ring element of the pair having a centrally convex nesting portion 7, said concave portion 6 and said convex portion 7 being symmetrical about an axis line of the respective ring elements of the pair, so that when the pair of half ring elements are in the closed condition, the free ends of the half ring elements are aligned to each other and form a surface-engagement so that the convex nesting portion 7 and concave nesting portion 6 are nested together tightly.

Kissel does not disclose said spring plate having at least one hole with a bushing therein for attachment of the ring binder mechanism to a file folder or control means for

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pivoting said hinge plates to move the pairs of ring elements between the open position and the closed position. Ng teaches the use of a ring binder mechanism 10 that has a spring plate 12 having two holes 54 with bushings 22 therein that are used for the purpose of attaching the ring binder mechanism 10 to a file folder 60, and control means 18 that are used for the purpose of pivoting hinge plates 14 to move pairs of ring elements 16 between an open position and a closed position. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to have combined the ring binder mechanism of Kissel with the bushings and control means of Ng in order to have a ring binder mechanism that uses bushings to protect the spring plate and a control means that makes it easier to open and close the ring elements.

10. Regarding claim 2, the modified invention of Kissel discloses wherein said concave nesting portion has a conical hole 9 that is formed in the free end of one half ring element, a diameter of the conical hole at its widest part being smaller than that of the respective half ring element (in the horizontal plane, see figure 2).

11. Regarding claim 3, the modified invention of Kissel discloses wherein the convex nesting portion 7 has a substantially conical protruding portion 8 with an outer diameter of a base of the protruding portion 8 being smaller than the diameter of the respective half ring element 3.

12. Regarding claim 4, the modified invention of Kissel discloses wherein the opening of said concave nesting portion 6 in the free end of one half ring element of

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each respective pair has a substantially conical hole 9 that is formed from its external end surface and an internal cylindrical hole 6 that is connected to said conical hole.

13. Regarding claim 6, the modified invention of Kissel discloses wherein the protruding portion 7 of said convex nesting portion 7 has a cylindrical shape 7, and the opening of said concave nesting portion 6 has a shape of an internal cylindrical hole 6.

14. Regarding claim 10, the modified invention of Kissel discloses a ring binder mechanism according to claim 1, wherein two rings 2/3 are provided in said ring binder mechanism.

15. Regarding claim 11, the modified invention of Kissel discloses a ring binder mechanism according to claim 1, wherein said rings 2/3 are made of metal material (see page 1, line 24).

16. Regarding claim 12, the modified invention of Kissel discloses a ring binder mechanism according to claim 1, wherein said rings 2/3 are made of plastic material (see page 1, lines 35-38).

17. Regarding claim 13, the modified invention of Kissel discloses a ring binder mechanism according to claim 1, wherein said rings 2/3 are formed integrally with said hinge plates 11/12 (see Figure 6).

18. Regarding claim 20, the modified invention of Kissel discloses wherein the nesting portion with a centrally convex portion 7 is formed in a free end of one half ring element 3 of said pair of half ring elements 2/3, and the nesting portion with a centrally concave portion 6 is formed in a free end of the other engaging half ring element 2, said convex nesting portion has an annular conical surface 10, said concave nesting portion

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has a conical hole 9 that is formed from its external end surface, a diameter of the conical hole 9 on the external end surface is smaller than that of the cylindrical rod 4 of the half ring element (in the horizontal plane, see figure 2), when the half ring elements 2/3 are in the closed condition, the connecting portion between the external end surface of the concave nesting portion and the conical hole thereof 9 engages with the annular conical surface 10 of the convex nesting portion, so that the centrally convex nesting portion is nested in the centrally concave nesting portion.

Kissel does not disclose that a cone angle of said conical hole is smaller than that of the annular conical surface of the centrally protruding outwards nesting portion. However, it would have been obvious to make the different portions of the conical hole and conical surface of whatever form or shape was desired or expedient for the purpose of design choice. A change in form or shape is generally recognized as being within the level of ordinary skill in the art, absent any showing of unexpected results.

19. Regarding claim 21, the modified invention of Kissel discloses wherein the nesting portion with a centrally convex portion 7 is formed in a free end of one half ring element 3 of said pair of half ring elements 2/3, and the nesting portion with a centrally concave portion 6 is formed in a free end of the other engaging half ring element 2, said convex nesting portion has a protruding portion 7, the protruding portion is connected to a surface of the cylindrical rod of the half ring element via an annulus internal end surface 5, a diameter of the protruding portion 7 on the internal end surface is smaller than that of the cylindrical rod 3 of the half ring element (in the horizontal plane, see figure 3), said concave nesting portion 6 has a opening 9 that is formed from its external

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end surface 4, a diameter of the opening 9 on the external end surface is smaller than that of the cylindrical rod 4 of the half ring element (in the horizontal plane, see figure 2) and slightly larger than that of said protruding portion 7 on its internal end surface, when the half ring elements are in the closed condition, the external end surface 4 of the concave nesting portion and the internal end surface 5 of convex nesting portion form a surface-engagement, so that the convex nesting portion is nested in the concave nesting portion.

20. Regarding claim 22, the modified invention of Kissel discloses wherein the nesting portion with a centrally convex portion 7 is formed in a free end of one half ring element 3 of said pair of half ring element pairs 2/3, and the nesting portion with a centrally concave portion 6 is formed in a free end of the other engaging half ring element 2, said convex nesting portion has a protruding conical portion 10, the conical portion is connected to a surface of the cylindrical rod of the half ring element via an annulus internal end surface 5, a diameter of the conical portion 10 on the internal end surface 5 is smaller than that of the cylindrical rod of the half ring element (in the horizontal plane, see figure 3), said concave nesting portion 6 has a conical hole 9 that is formed from its external end surface 4, a diameter of the conical hole 9 on the external end surface is smaller than that of the cylindrical rod of the half ring element (in the horizontal plane, see figure 2) and substantially equal to that of said protruding conical portion 10 on the internal end surface, when the half ring elements are in the closed condition, the external end surface 4 of the concave nesting portion and the internal end surface 5 of the convex nesting portion form a surface engagement, and

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the conical portion 10 of the convex nesting portion and the conical hole 9 of the concave nesting portion form an engagement, so that the concave nesting portion is nested in the convex nesting portion.

21. Regarding claim 23, the modified invention of Kissel discloses the invention substantially as claimed, except Kissel does not disclose wherein the pair of half ring elements of said ring binder mechanism form a circular ring. However, the Examiner takes Official Notice that it is well known in the art of ring binders to use a circular ring shape for the closed ring elements in order to allow the loose leaf paper to move more easily.

22. Regarding claim 24, the modified invention of Kissel discloses wherein one half ring element of said pair of half ring elements of said ring binder mechanism has a straight side (see figure 1).

23. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kissel in view of Ng and further in view of To et al. (U.S. Patent Publication 2003/0044221 A1).

24. Regarding claim 5, the modified invention of Kissel discloses a ring binder mechanism according to claim 4, the opening of said concave nesting portion 6 has a conical hole 9 that is formed from its external end surface and an internal cylindrical hole 6 that is connected to said conical hole 9. Kissel does not disclose that the protruding portion of said convex nesting portion has a shape that "consists of" a cylindrical tip and an arc-shaped annular conical base portion.

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To et al. teaches the use of a protruding portion 52 of a half ring element 48 that has a shape consisting of a cylindrical tip and an arc-shaped annular conical base portion (see Figure 2 and paragraph 26) for the purpose of providing suitable alignment and mating engagement with the corresponding recess on ring 50 (see page 2, paragraph 26 of To et al.). Therefore, and particularly absent any alleged criticality for the convex nesting portion having a shape that "consists of a cylindrical tip and an arc-shaped annular conical base portion" (noting for example at least figures 10, 11, 12, and 13 of the instant application), it would have been obvious to one having ordinary skill in the art at the time the invention was made to have combined the binder mechanism of Kissel with the protruding portion of To et al. in order to have a binder with nesting portions that fit and align better.

Response to Arguments

25. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

26. For the reasons as set forth above, the rejections are maintained.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric A. Gates whose telephone number is 571-272-5498. The examiner can normally be reached on Monday-Thursday 7:45-6:15.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Monica Carter can be reached on 571-272-4475. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



EAG

24 January 2007



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SUPERVISORY PATENT EXAMINER